

# PERIODICALS

## American Journal of Human Genetics

**March 1955. Vol. 7, No. 1.**—*On Some Pitfalls in Developing an Adequate Genetic Hypothesis*—By James V. Neel—This is the President's address to the American Society of Human Genetics. His advice to workers in Genetics includes the following points: the desirability of ensuring homogeneous material (and genetic analysis may help to achieve this); the avoidance of premature commitment to a precise genetic mechanism and too great a reliance on the "penetrance factor"; care in the selection of controls; and the need to remember that man is unique as an object of study.

*Frequency and Types of Mental Retardation in Twins*—By G. Allen and F. J. Kallmann—Here is given the first report on a study of 601 mentally defective twin index cases notified by the New York State Department of Mental Hygiene. Early statistics show that the incidence of twin-individuals in institutional admissions is higher than in the general population—even after excluding conditions related to the hazards of twin-birth. Also, there is a higher concordance rate in like-sex than in opposite-sex pairs. Further reports are to follow.

*Two Different Mutations of the X-Chromosome Causing Diabetes Insipidus*—By Hans Forssman—Continuation of work published in 1945 enables the author to present a very extensive pedigree of pituitrin—susceptible diabetes insipidus. He outlines a genetical route compatible with sex-linked recessive inheritance, noting partial expression in some female carriers—particularly in association with pregnancy. Affected members of another family showing this pattern of inheritance did not respond to the antidiuretic hormone.

*A Pedigree of Aniridia with a Discussion of Germinal Mosaicism in Man*—By T. E. Reed and H. F. Falls—The first appearance of a dominantly-inherited condition in two or more sibs with normal parents may be due to a mutation occurring early in the development of a parental gonad. The alternative possibility is of non-penetrance in a carrier parent. The authors give a pedigree of aniridia illustrating the point (although neither parent was actually examined). An interesting discussion follows and they estimate that probably less than 3 per cent. of dominant mutations in man give two or more affected sibs in the first affected sibship.

*A New Syndrome of Anomalies in Mice and a Possible Human Counterpart*—By Walter C. Morgan, Jr.—Mice homogeneous for the "crooked tail" gene may be exencephalic or survive showing defects characteristic of the *small* type. The author

draws a comparison with certain human developmental abnormalities and suggests that they may be related to anencephaly in the same way.

*Split Hand with Unusual Complications*—By J. B. Graham and C. E. Badgley—A family is described in which the "lobster-claw" type of deformity appeared in the offspring of two radiologically normal sibs. In the third generation much more severe skeletal deformities occurred in two of the three affected members. Thus a less penetrant and less innocuous gene than the usual one may be responsible.

*Genetic Study of Microcephaly Based on Japanese Material*—By T. Komai, K. Kishimoto, and Y. Ozaki—Analysis is made of 143 cases of microcephaly belonging to seventy-eight sibships. The findings are consistent with autosomal recessive inheritance—apart from a sex-ratio of nearly two. This may in part be due to the greater likelihood of the proband being male. Birth order and maternal age play no part. The gene incidence is calculated as between 0.0034 and 0.0063, and the mutation rate as  $(2.2-7.57) \times 10^{-5}$ .

*Intra-Uterine Selection by the ABO Incompatibility of Mother and Fetus*—By Ei Matsunaga—The author has used published work on family investigations to look for evidence of ABO incompatibility between mother and fetus. In the matings mother O  $\times$  father A or B there were fewer A or B children than would be expected from calculated gene-frequencies. He also found—from a study of obstetrical clinic files—that there was a higher frequency of miscarriages in these matings than in the reverse type (mother A or B  $\times$  father O). He shows how such probable intra-uterine selection could have a bearing on population genetics.

*Data on Linkage of Ovalocytosis and Blood Groups*—By T. Fujii, W. C. Moloney and N. E. Morton—There was no evidence for linkage of the gene for ovalocytosis with those for the ABO, Rh or MN blood groups in the four Japanese families studied.

*Comments on the Rate of Mutation to Chondrodystrophy in Man*—By Herman M. Slatis—The author shows how, in assessing the fertility of affected individuals there will always be a certain bias if comparison is made with normal sibs, since the latter are drawn from larger families and will tend to raise larger families. He makes a new, lower estimate of the mutation rate for chondrodystrophy from Mørch's data, without consideration of relative fertility, and puts forward arguments in its support.

*Syndactyly of the Ring and Little Finger*—By O. Johnston and V. V. Kirby, Jr.—This condition is described in five generations of a family. In

some cases there is an associated defective development of the fifth finger. It is apparently due to a dominant gene of variable expression and penetrance.

HELEN BLYTH.

## Annals of Human Genetics

**June 1955. Vol. 19, Part 4.**—*On estimating the relation between blood group and disease*—By B. Woolf—It is increasingly common to try to relate the incidence of a disease to other genetically determined characters such as blood groups. Suppose there are two blood types  $\alpha$  and  $\beta$ , for which a control series contains  $H$  and  $K$  individuals, respectively, with  $H + K = N$ ; and a disease series contains  $h$  and  $k$ , where  $h + k = n$ . Some workers have tested for significance by comparing the statistic  $d = h/n - H/N$  with the appropriate standard error. A simple example shows that  $d$  may differ from one community to another even if the specific attack rate for each blood type remains constant. In order to avoid spurious heterogeneities the paper recommends the use of the relative incidence rate  $\pi = hK/Hk$ , or for simplicity of analysis,  $\gamma = \log \pi$ . Tests of significance and homogeneity are illustrated.

**Blood groups in Jews from Cochin, India**—By J. Gurevitch *et al.*—**Blood groups in Jews from Iraq**—By J. Gurevitch *et al.*—**Blood groups in Jews from Tripolitania**—By J. Gurevitch *et al.*—These three papers give some classified data on the relative blood group frequencies for ABO, MN and Rh antigens in communities of Jews from Cochin (India), Iraq and Tripolitania. Certain similarities with and differences from other communities are noted, but fairly comprehensive comparisons will be needed before the full import of the results is clear.

**Birth weight in cousins**—By Elizabeth B. Robson—The relative effects of maternal and foetal genotypes on birth weight are investigated by studying cousin-pair correlations. Cousin-pairs are of three types according to whether the parents constituting a sib-pair are two sisters, two brothers, or a sister and a brother. The correlation between birth weights is significant for the maternal first cousins but not for the other two groups. This is evidence for a maternal genetic factor in the determination of birth weight, and it appears from the analysis to be the most important single influence.

**Filter-paper electrophoresis of mouse hæmoglobin : preliminary note**—By Helen M. Ranney and Salome Gluecksohn-Waelsch—Mouse hæmoglobin has been studied in eleven inbred strains using the methods of filter-paper electrophoresis. In three strains all the mice showed one pattern type; in five all gave another type; and in the remaining three strains all mice were either of one pattern or the other. It seems likely that a well-defined genetic factor may be involved.

**Monozygotic and dizygotic twin diagnosis**—By Sheila Maynard Smith and L. S. Penrose—This paper develops a procedure for calculating the relative chance that a twin-pair is dizygotic or monozygotic, based on an examination of various genetic characters in parents and children. Tables are given for use with the blood-group systems ABO, MNS and Rh. Methods of obtaining such tables for other systems are also indicated, as well as the extensions to such metrical characters as total finger ridge count and *atd* palmar angle.

**Taste thresholds for phenylthiocarbamide of some population groups. I. The thresholds of some civilized ethnic groups living in Malaya**—By J. W. H. Lugg and J. M. Whyte—A technique has been developed for the special purpose of estimating the taste threshold for phenylthiocarbamide in primitive communities. Detailed results are given for four samples of fifty subjects, one sample being taken from each of four ethnic groups in Malaya.

**Genetical linkage between the ABO and nail-patella loci**—By J. H. Renwick and Sylvia D. Lawler—Analysis of the pedigrees of six human families appears to establish the existence of genetic linkage between the locus for the ABO blood group system and that for the nail-patella syndrome, known to be autosomal dominant. The maximum likelihood value of the recombination fraction is  $10.4 \pm 3.2$  per cent. Such an apparently well established linkage should, if confirmed, be of considerable importance to the mapping of human chromosomes.

**Inbreeding with the homozygotes at a disadvantage**—By E. C. R. Reeve—This paper describes a detailed mathematical investigation of different types of inbreeding where the homozygotes are at a disadvantage. It is assumed here that selection takes place only within lines. Taken in conjunction with the work of Hayman and Mather it follows that, with certain qualifications, inbreeding to obtain homozygosity should be carried out as intensely as possible, and in such a way as to minimize the selection between lines.

NORMAN T. J. BAILEY.

## The Journal of Family Welfare

**November 1954. Vol. 1, No. 1.**—A bi-monthly periodical intended for the Indian G.P. and informed Indian laity. This first issue sets a high standard and its editor-in-chief being Dr. A. P. Pillay, assisted by a distinguished Editorial Board, is sufficient guarantee that the standard will be maintained. Included in this number is a good review of the whole subject of marital guidance by Dr. Abraham Stone. An article on the Indian Marriage Act of 1954 with notes on its effect in mingling members of different castes and religions. An interesting extract from *The Indian Express* on the reasons for the confusion which exists in the Chinese population policy. A long

article on differential fertility and its effect on community welfare by K. C. Raja which very rightly concludes that there are no short cuts to Utopia and advises the gradual accumulation of reliable data. Several references are made to "dry smears" and details are given of a method of taking them with a view to facilitating sperm counts without the necessity for the patient to

undertake a long, and sometimes impossibly expensive, journey.

And finally, a detailed description of vasectomy for the guidance of family doctors in outlying districts, by Mr. G. M. Phadke, concludes the first issue of a periodical which should prove of great value in the sphere for which it is intended.

C. W. USHER.

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